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DUKE POWER COMPANY - MCGUIRE NUCLEAR STATION
HANDLING OF HEAVY LOADS

Purpose

The purpose of this directive is to discuss handling heavy loads using cranes and hoists. It will also discuss rigging practices and use of monorails and jib booms.

References

NUREG-0612.
ANSI B30.2 - 1976.
ANSI B30.0 - 1971.
ANSI B30.16 - 1973.
ANSI N14.6 - 1978.

Definitions

- Heavy Load - A load whose weight is greater than the combined weight of a single spent fuel assembly and its handling tool (> 1500 lbs.).
- Load Path - The safest path that will be followed when a heavy load is being moved by a crane or hoist.
- Monorail - A specific fixed structural rail, usually an I-beam, on which a lifting device is placed to make lifts on a specific piece of equipment in a predetermined direction.
- Jib - A projecting arm attached at a pivot point on which a hoist travels lifting only equipment located directly under the jibs radius.

Administration

In making a lift, using a lifting device which does not travel a fixed path, a safe load path or zone shall be utilized if a heavy load is being moved. The load path should be used for all other lifts but is not mandatory.

Inspections

All lifting devices at station shall be inspected according to the applicable ANSI standard.

The only exception to this is the special lifting devices which shall be inspected to the requirements in ANSI N14.6-1978. This is due to NUREG-612's interpretation of special lifting devices. The special lifting devices will be defined and placed in the station's PM program by the Accountable Engineer on cranes or will be included in the installation instructions.

Rigging

Rigging shall be performed by qualified people. Qualifications will involve experience and/or training. In all rigging practices, the proper lifting device should be selected according to the weight of load to be moved.

Monorails and Jibs

Monorails and jibs are installed in the plant for specific pieces of equipment. Their intended use is for the aid in removal of this equipment. Since the monorails and jibs are fixed, the load path for them is the area directly under them.

Movement of Loads

In moving of heavy loads, the following items shall be considered:

- (1) Move steadily with load along the specified load path.
- (2) Move as close to the floor as possible.
- (3) Insure rigging is secure and adequately sized.
- (4) If for any reason there is an obstruction in the load path, the closest, most direct route shall be made to move around it and back to the load path if obstruction cannot be moved.